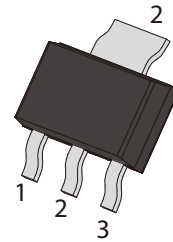


FEATURES

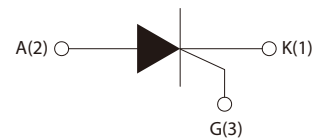
- | Glass-passivated mesa chip for reliability and uniform
- | High current output up to 1.0 A
- | RoHS (2002/95/EC) compliant packages



SOT-223

APPLICATIONS

- | Flash lamp
- | Electronic ballast
- | Igniter



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	
RMS on-state current ($T_c=85^\circ\text{C}$)	$I_{\text{T(RMS)}}$	1	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$)	I_{TSM}	12	
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	0.72	A^2S
Critical rate of rise of on-state current ($I_G=2*I_{GT}$)	d/d_t	50	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	0.3	A
Average gate power dissipation	$P_{\text{G(AV)}}$	0.1	W
Storage junction temperature range	T_{STG}	-40~+150	$^\circ\text{C}$
Operating junction temperature range	T_j	-40~+125	

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		Min.	Typ.	Max.	
I_{GT}	$V_D=12\text{V}, R_L=33\Omega$	-	40	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}, R_L=3.3\text{K}\Omega, T_j=150^{\circ}\text{C}$	0.2	-	-	
I_H	$I_T=500\text{mA}$	-	-	4	mA
I_L	$I_G=1.2I_{GT}$	-	-	5	
dV_D/dt	$V_D=540\text{V}, R_{GK}=1\text{K}\Omega, T_j=125^{\circ}\text{C}$	100	-	-	$\text{V}/\mu\text{s}$

STATIC CHARACTERISTICS

Symbol	Parameter	Value	Unit	
V_{TM}	$I_{TM}=2\text{A}, t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	≤ 1.4	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$		≤ 5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	≤ 100	μA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	25	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	Junction to ambient	60	$^{\circ}\text{C}/\text{W}$

PARAMETER CHARACTERISTIC CURVE

FIG.1 Maximum power dissipation versus RMS on-state current

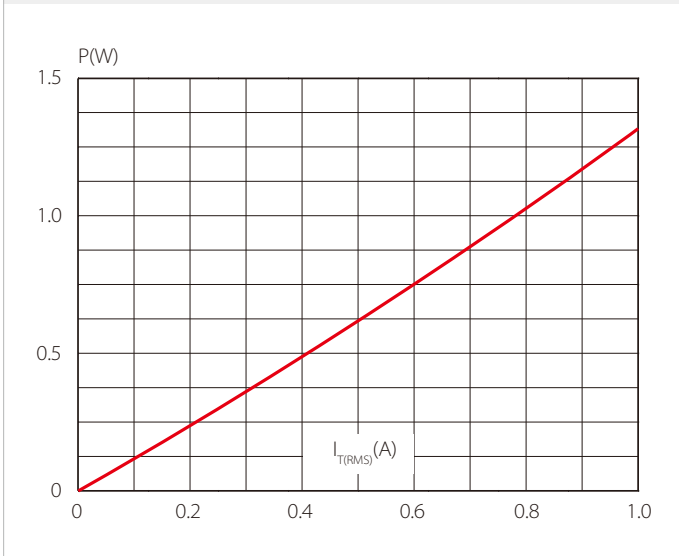


FIG.2: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness:35μm)(full cycle)

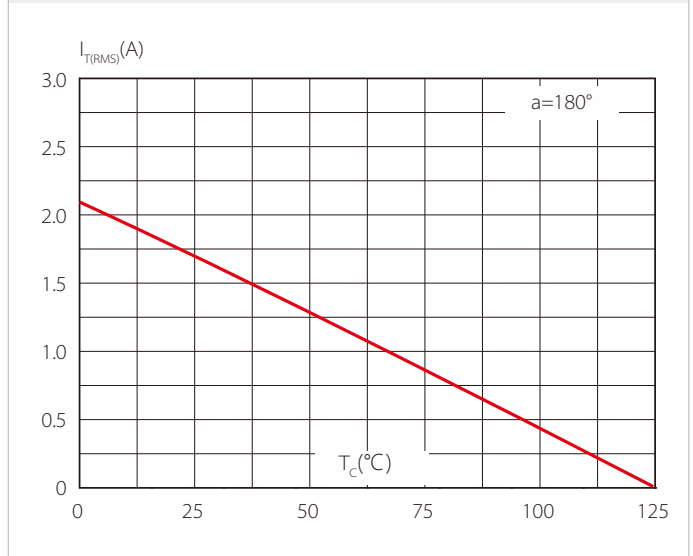


FIG.3: Surge peak on-state current versus number of cycles

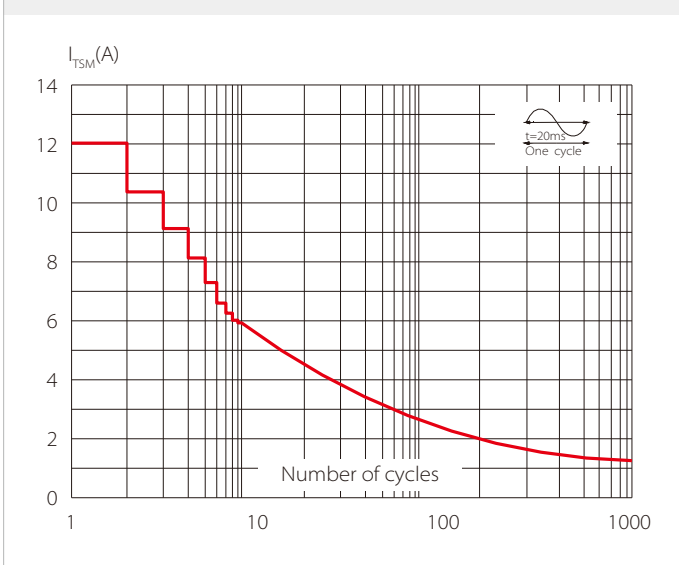


FIG.4 On-state characteristics (maximum values)

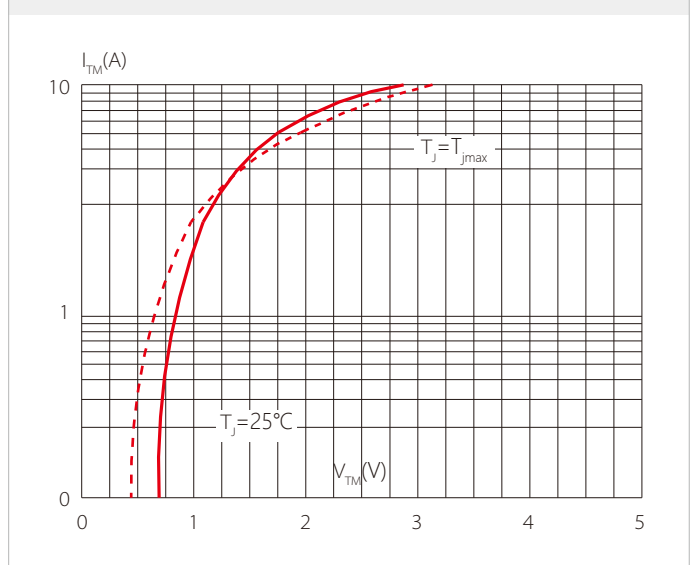


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$ and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

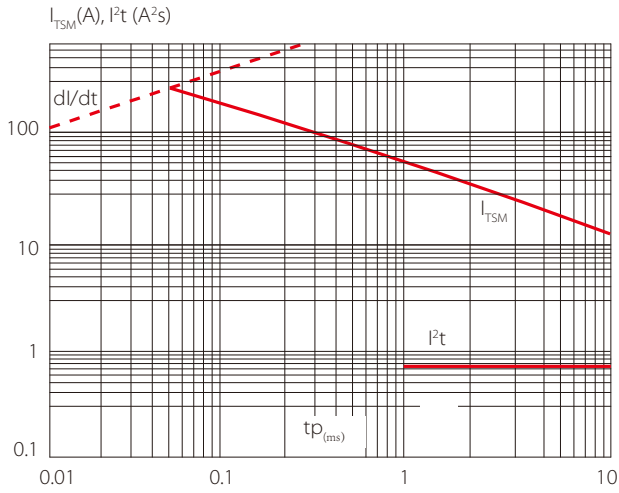


FIG.6 Relative variations of gate trigger current versus junction temperature

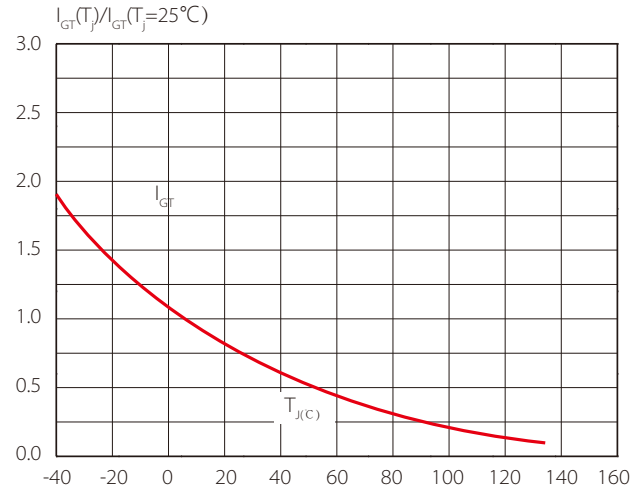


FIG.7 Relative variations of holding current versus junction temperature

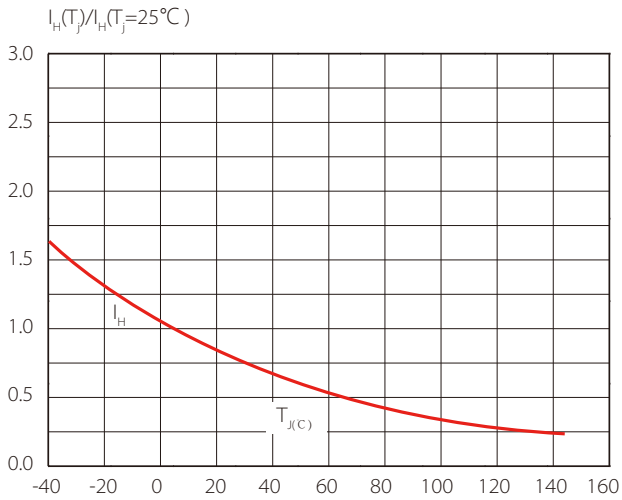
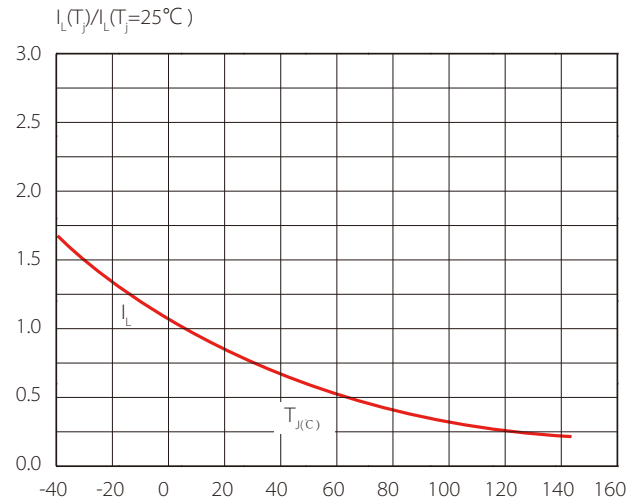
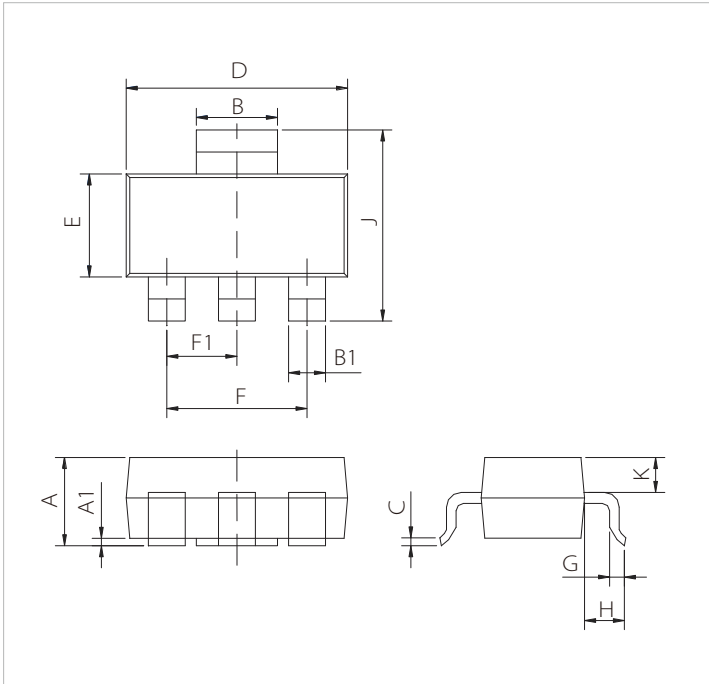


FIG.8 Relative variations of latching current versus junction temperature



SOT-223 PACKAGE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.50		1.60	0.059		0.071
A1	0.01		0.06	0.001		0.004
B	2.90		3.10	0.118		0.122
B1	0.60		0.80	0.048		0.052
C	0.22		0.32	0.009		0.013
D	6.30		6.70	0.248		0.264
E	3.30		3.70	0.130		0.146
F		4.60			0.181	
F1		2.30			0.091	
G	0.70		1.10	0.028		0.043
H	1.50		2.00	0.059		0.079
J	6.70		7.30	0.264		0.287
K		0.90			0.035	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SCV1M80	SOT-223	1000PCS	7"

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